E-PATHFINDER

An informal electronic newsletter published for the GPS user community by PM GPS. Information presented is based on published and submitted news items of interest to the general user. Widest dissemination and reproduction is encouraged. Newsworthy items are solicited for inclusion. Editor Mr. Don Mulligan at PM GPS, Ft Monmouth NJ DSN 992-6137 or (732) 532-6137 or email: Donald.Mulligan1@us.army.mil

Volume 13 Issue 2 Website: *http://army-gps.robins.af.mil* April 2006

Pathfinder GPS Newsletter is now distributed via the web.

DAGR Fielding Remains the Focus at PM GPS

PM's Corner

Hello GPS User Community!

DAGR Fielding and Training remains my highest priority as detailed in the column at right.

Also, we are expediting release of software updates for DAGR and the GB-GRAM to provide current World Magnetic Model updates. This data is used to calculate your position.

And for those of you overseas or going overseas, take notice of the change in repair return procedures for PLGR and DAGR explained in this newsletter.

Since we distribute this newsletter electronically, we would appreciate your help: What government websites do you visit on a regular basis? We want to link our newsletter wherever we can to get maximum exposure for each issue. Please drop an email to the editor!

By the time our next newsletter is published, the new PM GPS website should be up and running. But don't wait! If you have a question, contact us now!

H. Ray Matthews, Jr.
LTC, AV
PM, Global Positioning System

The DAGR Fielding and New Equipment Training (NET) teams are hard at work this year distributing DAGR sets and providing hands-on training.

In recent months the multiple Fielding and NET teams have visited Fort Richardson AK, Fort Leonard-wood MO, Fort Bliss TX, Fort Buchanan PR, Fort Bragg NC, Schofield Barracks HI, Fort Carson CO and Fort Dix NJ.

As of April 1st, PM GPS has distributed a total of 34,665 DAGRs. Of these, 19,356 went to handheld users and 15,299 were distributed to Army Host Platforms.

The GPS NET teams have provided the DAGR "Train-the-Trainer" course to 2,571 students.

PM GPS anticipates additional funding to allow for the purchase of more DAGR to keep the fielding program on schedule towards an eventual goal of over 201,000 DAGR in Army service by 2012.

PM GPS is also refining several unit-level training support items and will make them available to support additional DAGR training at a time and place convenient to the unit schedule.

For the latest on DAGR Training materials including the Computer Based Training (CBT) package, check the PM GPS website or contact PM GPS Fort Monmouth Field Office at DSN 992-4733.

REMEMBER! PPS is not just GPS, It's SECURE GPS!

PPS stands for Precise Positioning Service, the secure GPS signal that can only be accessed by a military rated GPS receiver with current crypto keys!

The GPS Product Family in 2006:

Two SAASM-based State-of-the-art GPS receivers: DAGR and GB-GRAM

Both the Defense Advanced GPS Receiver (DAGR) and the Ground-Based GPS Receiver Applications Module (GB-GRAM) are 12-channel, dual frequency, continuously tracking GPS receivers utilizing state-of-the-art GPS receiver technology including "All in View" satellite tracking and the Selective Availability Anti-Spoof Module (SAASM) to access the Precise Positioning Service (PPS) signal for highly accurate Position, Navigation and Timing (PNT) information 24 hours a day under all weather conditions. The DAGR and GB-GRAM support a variety of soldier missions including position location, target location, rendezvous and en-route and terminal navigation.

DAGR is a self-contained, Ruggedized GPS receiver.

Although designed as a hand-held receiver for ground-mobile and air-borne troops, standardized interfaces enable DAGR to provide PNT information to a wide variety of vehicles and host systems including integrated configurations.

DAGR measures 3.46" X 6.35" X 1.58" and weighs .94 lb. w/batteries.

In the field, DAGR supplements and eventually will replace the Precision Lightweight GPS Receiver (PLGR), the legacy GPS receiver first fielded in 1994.

DAGR provides ICD-GPS-153C and NMEA 0183 compliant serial data interfaces for weapon system integrations including Laser Range Finders.

DAGR is delivered with a multi-year manufacturer's warranty and is backward compatible with PLGR (adapters permissible). Weapon System Managers use common DAGR accessories to develop installation kits for specific platforms.

As of April 1st, PM GPS has distributed a total of 34,665 DAGRs. The current Total Army objective is to field approximately 201,000 DAGRs by 2012.

New software for the original version DAGR is available so reprogram if you're AN/PSN-13 doesn't display version –011. The AN/PSN-13A DAGR does not require reprogramming at this time! Another update to provide 2006 World Magnetic Model data is in the works. DAGR software is available via MWO channels or from https://rdit.army.mil/GPS.

For more information contact the DAGR Product Manager at Los Angeles: DSN 633-3678.

GB-GRAM is an embeddable lightweight GPS receiver.

The functions and capabilities of the GB-GRAM are tailored to suit the needs of host user equipment with relatively low dynamic characteristics including mounted and dismounted land users and waterborne vehicles.

GB-GRAM is currently produced in the Small Serial Interface (SSI) form factor (shown above). The small size, measuring 2.45" X 3.40" X 0.6" and weighing 100 grams, makes GB-GRAM attractive for integration into a wide variety of command, control, communications and computer systems.

GB-GRAM can displace external GPS receivers like PLGR or DAGR. This reduces the size and weight of a weapons system while incorporating state-of-the-art SAASM GPS technology.

As of April 1st, PM GPS has shipped a total of 7,477 GB-GRAMs out of 11,485 ordered to date to support a variety of DOD host platforms.

Upcoming Events: Continued deliveries of version 3.2 GB-GRAM and a software release in August 2006 to provide host platforms with an updated World Magnetic Model used to calculate position location. The software will be made available as a download from the CE-LCMC Software Engineering Center website.

PM GPS will also demonstrate a proposed accessory item called the "DASH Box" that would enable host platforms to use one GB-GRAM to replace multiple PLGR or DAGR in platform installations that do not require operator interface with the GPS receiver.

For more information contact the GB-GRAM Product Manager at Los Angeles: DSN 633-3749

DAGR SOFTWARE (As of Jan 06)	
AN/PSN-13	***984-2461-011***
AN/PSN-13A	***984-3006-001***

GB-GRAM SOFTWARE (As of Jan 06)	
3.1 VERSION	***987-1856-032***
3.2 VERSION	***987-1856-023***

The GPS Product Family in 2006:

Two PPS-SM-based Legacy GPS receivers: PLGR and CUGR

Both the Precision Lightweight GPS Receiver (PLGR) and the Cargo Utility GPS Receiver (CUGR) are multi-channel GPS receivers incorporating the Precise Positioning Service - Security Module (PPS-SM) to access the Precise Positioning Service (PPS) signal for accurate Position, Navigation and Timing (PNT) information 24 hours a day under all weather conditions. The PLGR supports a variety of soldier missions including position location, target location, rendezvous and en-route and terminal navigation. In addition to those functions, the CUGR can be fully integrated to Instrument Flight Rule (IFR) capable aircraft or used in a standalone configuration in non-IFR aircraft.

The PLGR is a self-contained, Ruggedized five-channel, single frequency GPS receiver.

Although designed as a hand-held GPS receiver for ground-mobile and airborne troops, standardized interfaces enable PLGR to provide PNT information to a wide variety of vehicles and host platforms including integrated applications.

PLGR measures 9.5" X 4.1" X 2.6" and weighs 2.75 lb. w/batteries. The PLGR provides ICD-GPS-153 and NMEA 0183 compliant serial data interfaces for weapons system integrations.

The AN/PSN-11(V) enhanced version also supports laser range finder integration. PLGR was delivered with a six-year warranty, later extended to 10 years. Weapon System Managers use common PLGR accessories to provide installation kits for specific platforms.

During FY94-05, PM GPS distributed 112,819 PLGR.

Upcoming Events: A software release is planned for August 2006 to provide PLGR users with an update of the World Magnetic Model used to calculate position location. The software will be distributed through MWO channels as a routine field reprogramming task.

The PLGR External Protection Module (EPM) (see the Jan 06 issue of PATHFINDER) will be made available to host platforms.

The population of in-service PLGR will decline as DAGR fielding continues and the cost of PLGR repair increases.

For more information contact the PLGR Product Manager at Warner Robins AFB DSN 468-5096.

PLGR SOFTWARE (As of Jan 06)	
AN/PSN-11	***613-9854-005***
AN/PSN-11(V)1	***613-9868-008***

The CUGR is a self-contained six-channel, dual frequency, GPS-based aircraft navigation system.

CUGR serves as a supplemental means of navigation in selected rotary wing aircraft. CUGR is a modified version of the commercial Trimble TNL 2101 I/O aircraft navigation system and shares most of that product's design features and capabilities.

CUGR was delivered with an extended manufacturer's warranty and is now supported through the standard supply system by the CE-LCMC Logistics Readiness Center at Fort Monmouth, NJ utilizing the Original Equipment Manufacturer (OEM) for depot repair.

PM GPS developed integrated installation kits for UH-1H/V aircraft and standalone installation kits for OH-58A+/C aircraft.

Due to fluctuations in the UH-1 and OH-58 aircraft fleets, the number of aircraft equipped with CUGR is estimated at 400 aircraft with some scheduled to remain in service through 2015.

Upcoming Events: No product improvements are planned. The OEM has sold production and repair rights for CUGR to another firm. CE-LCMC plans to award a contract to the new firm in 2007 to maintain depot repair support.

For more information about CUGR contact the Fort Monmouth Field Office at DSN 992-6137.

OTHER LEGACY GPS SYSTEMS

The AN/ASN-149(V) two-channel set and the AN/ASN-163 Miniaturized Airborne GPS Receiver (MAGR) remain in limited use. The AN/ASN-169 Standalone Airborne GPS Receiver (SAGR) is obsolete. Support for these items is limited and they are subject to disposal restrictions due to the security component. If you have questions contact the Georgia or Ft Monmouth Offices.

Change in Theater Support for GPS Warranty Repair Services

The October 2004 and July 2005 issues of PATHFINDER provided new repair return procedures for GPS receivers for units deployed to Operation Iraqi Freedom and Operation Enduring Freedom. Those procedures utilized the Electronic Sustainment Support Center (ESSC) to centralize in-theater GPS repair support. Those procedures are now discontinued and all units are advised to return faulty GPS equipment using the original guidance which is provided below.

For AN/PSN-11 and AN/PSN-11(V)1 PLGR:

Confirm the Failure. Check the battery or power connections and confirm the failure using Built-in-Test. BIT may not be necessary if your PLGR got run-over or had the external antenna broken off.

Prepare for Shipment:

Use the menu to "zeroize" the crypto key (if loaded). Do not use the "emergency zerioze" method or you'll erase all memory, including fault codes. Remove prime power batteries but leave the memory battery installed. Keep your accessories. Package the PLGR for in-transit protection. Procedures in the applicable TM.

Provide Essential Information: On a DD Form 1149 (shipping document), provide a Point of Contact (POC), a commercial phone number and a complete return shipment address including building number and DODAAC. Specify the failure mode, and any information that will help determine what went wrong (such as how long the set was operating; what you were doing when the set failed, etc.).

Procedures are the same regardless of warranty status. If you have a supporting DS go through them; if not, return it directly. The address is:

DODAAC EZ7415
Rockwell Collins
855 35th Street NE
ATTN: Service Center M/S 139-141
Cedar Rapids, IA 52402-3613

Mark for PLGR Warranty

For AN/PSN-13 and AN/PSN-13A DAGR

Confirm the Failure. Check the battery or power connections and confirm the failure using Built-in-Test. BIT may not be necessary if your DAGR got run-over.

Prepare for Shipment:

Use the menu to "zeroize" the crypto key (if loaded). Do not use the "emergency zerioze" method or you'll erase all memory, including fault codes. Remove prime power batteries but leave the memory battery installed. Keep your accessories. Package the DAGR for in-transit protection. Use the reusable containers that DAGR came in whenever possible. Procedures in the applicable TM.

Provide Essential Information: On a DD Form 1149 (shipping document), provide a Point of Contact (POC), a commercial phone number and a complete return shipment address including building number and DODAAC. Specify the failure mode, and any information that will help determine what went wrong (such as how long the set was operating; what you were doing when the set failed, etc.).

Ship by traceable means to the below address:

DODAAC EZ7415
Rockwell Collins, Inc.
855 35th Street NE
ATTN: Service Center M/S 139/141
Cedar Rapids, IA 52402-3613

Mark for: DAGR Warranty

Additional Guidance for both PLGR and DAGR Repair Returns

No Local Disposal. Don't send GPS receivers regardless of condition to a Defense Reutilization and Marketing Office (DRMO). If you have surplus GPS equipment, contact your Force Modernization Office or Class VII manager to coordinate a transfer within your command. If you don't have access to those agencies contact the CE-LCMC Item Manager at DSN 992-9155. If you have a severely damaged receiver, do not dispose of it locally. The internal security device requires demilitarization by an authorized facility. DEMIL instructions are posted at the appropriate agencies but the "answer" for field users is simple: Return all damaged GPS receivers to the repair depot even when it appears the receiver is beyond repair or salvage.

To check the status. If you sent PLGR or DAGR in for repair and have not received replacements after allowing 10 days plus transit time to and from your location, contact the Fort Monmouth Office for a status check. Please have ready your DODAAC, PLGR or DAGR serial numbers, and the date you shipped them. Call DSN 992-6133, 8406 or 5758. The commercial prefix is (732) 532-.

How to Contact PM GPS

Product Management Office (PMO) Ft Monmouth NJ

LTC Ray Matthews, PM GPS
(732) 532-3169 DSN 992-3169

horace.matthews@mail1.monmouth.army.mil

Mr. Ed McAuley
(732) 532-6136, DSN 992-6136

Edward.mcauley@us.army.mil

Ms. Suzanne Reinhardt-Smith
(732) 532-5758 DSN 992-5758

suzanne.reinhardt-smith@mail1.monmouth.army.mil

Army Program Manager (GPA) at the Navstar GPS Joint Program Office, Los Angeles CA

Mr. David Williamson, Deputy PM GPS (310) 653-3241 DSN: 633-3241

david.williamson@losangeles.af.mil

Georgia Field Office (GFO) Warner Robins GA

Mr. Frank Rowe, Chief
(478) 926-9511 DSN: 468-9511

frank.rowe@robins.af.mil

Mr. William Burnette
(478) 926-1109, DSN 468-1109

william.burnette@robins.af.mil

Who to Call?

For platform integration and new product information, call the GPA Deputy PM at Los Angeles.

For equipment authorization, maintenance status, fielding, and NET, call the PMO.

For sustainment issues including software, supply, technical publications, accessories and host vehicle installations, call the GFO.

Not Sure? Contact a Help Line:

William Burnette in Georgia at (478) 926-1109 or DSN 468-1109

William.burnette@robins.af.mil

Jim Buggy in NJ at (732) 532-4733 or DSN 992-4733

james.buggy@mail1.monmouth.army.mil.

COMING SOON

Visit the NEW PM GPS WEBSITE
(after July 1st)

https://gps.army.mil

The current PM GPS Website will remain open for the time being at:
http://army-gps.robins.af.mil